



# OWNER OPERATOR'S MANUAL



Crary Company  
A Division of TerraMarc Industries  
237 12th St. NW • P.O. Box 849  
West Fargo, ND 58078-0849  
(701)282-5520 • FAX: (701)282-9522  
[www.bearcatproducts.com](http://www.bearcatproducts.com)

a division of



# Before you Begin

## DEAR BEAR CAT CUSTOMER,

Thank you for purchasing a Crary Bear Cat product. The Bear Cat line is designed, tested, and manufactured to give years of dependable performance. To keep your machine operating at peak efficiency, it is necessary to adjust it correctly and make regular inspections. The following pages will assist you in the operation and maintenance of your machine. Please read and understand this manual before operating.

If you have any questions or comments about this manual, please call us toll-free at 1-800-247-7335.

If you have any questions or problems with your machine, please call or write your local factory-authorized Bear Cat dealer.

### How to Contact Bear Cat

#### ADDRESS

#### Crary Bear Cat

237 NW 12th Street  
PO Box 849  
West Fargo, ND  
58078

#### PHONE

800-247-7335  
701-282-5520  
Fax: 701-282-9522

#### EMAIL

opesales@crary.com  
service@crary.com

#### HOURS

M-F, 8 a.m. to 5 p.m.  
Central Time

## PLEASE SEND US YOUR WARRANTY CARD

A warranty card is included in your owner's kit packaged with your machine. Please take the time to fill in the information requested on the card. When you send your completed card to us, we will register your machine and start your coverage under our limited warranty.

## EMISSION INFORMATION



### WARNING



#### WARNING TO ALL CALIFORNIA AND OTHER STATES OPERATING OUTDOOR POWER EQUIPMENT

Under California Law and under the laws of several other states you are not permitted to operate an internal combustion engine using hydrocarbon fuels on any forest covered, brush covered or grass

covered land or on land covered with grain hay or other flammable agricultural crop, without an engine spark arrester in continuous effective working order.

The engine on your power equipment, like most outdoor power equipment, is an internal combustion engine that burns gasoline, a hydrocarbon fuel. Therefore, your power equipment must be equipped with a spark arrester muffler in continuous effective working order. The spark arrester must be attached to the engine exhaust system in such a manner that flames or heat from the system will not ignite flammable material.

Failure of the owner/operator of the equipment to comply with this regulation is a misdemeanor under California law, and may also be a violation of other state and or federal regulations, laws, ordinances, or codes. Contact your local fire marshal or forest service for specific information about what regulations apply in your area.

The standard muffler installed on the engine is not equipped with a spark arrester. One must be added before use if this machine is intended to be used in an area where a spark arrester is required by law. Contact the local authorities if these laws apply to you. See your authorized engine dealer for spark arrester options.



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any implied warranty as to the merchantability of  
of any other obligation on the part of Crary Co.  
the implied warranty lasts, so the above limitat  
~~ings. Regular routine maintenance of the~~  
sibility of the owner. All warranty repair reimburs  
ed Bear Cat service dealer, or repairs using part

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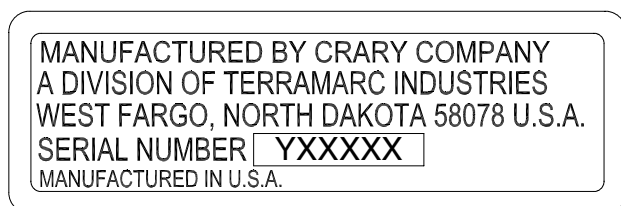
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## SERIAL NUMBER LOCATION

Always give your dealer the serial number of your Crary Bear Cat product when ordering parts, requesting service or any other information.

Please record the serial number in the space provided below and on the warranty and registration card. The serial number is located on the trimmer frame.

	<b>WARNING</b>
To prevent personal injury or property damage: Disengage the source providing power to the machine and make sure that all moving parts have come to a complete stop, before obtaining serial number, servicing, adjusting or repairing.	



*Fig. #1, Serial number decal*

**Serial Number** \_\_\_\_\_

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## REPLACEMENT PARTS

Only genuine Bear Cat replacement parts should be used to repair the machine. Bear Cat replacement parts are available from your Bear Cat dealer. To obtain prompt, efficient service, remember to give the dealer the correct part description and serial number of the machine.

**Please be sure to provide the following information:**

1. The SERIAL NUMBER of your machine.
2. The PART NUMBER of the part.
3. The PART DESCRIPTION.
4. The QUANTITY needed.

# Safety Section

## THE SAFETY ALERT SYMBOL



This is the safety alert symbol. It is used in this Owner / Operator's Manual and on your machine to alert you to potential hazards.

Whenever you see this symbol, read and obey the safety message that follows it. Failure to obey the safety message could result in personal injury, death or property damage.



**DANGER**

Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.



**WARNING**

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.



**CAUTION**

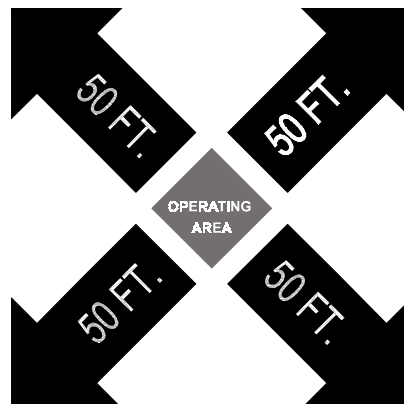
Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury.

## 1.1 BEFORE OPERATING



1. Read this Owner / Operator's manual. Be completely familiar with the controls and the proper use of this equipment.
2. Before inspecting or servicing any part of the machine, wait for all parts to stop moving. Be aware that rotating parts slow down gradually after power is stopped.
3. Keep safety decals clean and legible. Replace missing or illegible safety decals.

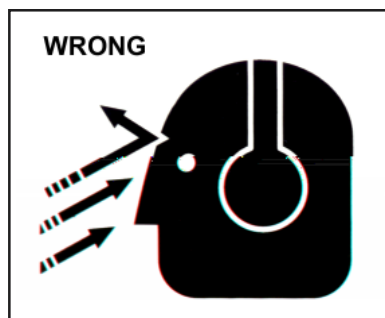
4. Familiarize yourself with all of the safety and operating decals on this equipment and on any of its attachments or accessories.
5. Do not allow children or any person unfamiliar with the use of the unit to use this machine.



6. Keep the area of operation clear of all persons, particularly small children. Keep bystanders at least 50 feet (15 meters) away from the area of operation.
7. Do not run this equipment in an enclosed area. Do not operate this equipment in or near buildings, windows, or air conditioners.
8. If needed, always use an approved fuel container. Keep open flames, sparks, smoking materials, and other sources of combustion away from fuel.
9. Do not operate this machine if you are under the influence of alcohol, medications, or substances that can affect your vision, balance, and judgement. Do not operate if tired or ill. You must be in good health to operate this machine safely.

## BEFORE OPERATING

10. Use only in daylight or good artificial light.
11. Wear safety glasses at all times while operating this machine.



12. Never use without proper guards in place.
13. Avoid wearing loose fitting clothing. Never operate this machine wearing clothing with drawstrings that could wrap around or get caught in the machine.
14. Check that all screws, nuts, bolts, and other fasteners are properly secured before starting the machine. Check all screws, nuts, bolts, and other fasteners for proper tightness

to ensure everything is in proper working condition once every 10 hours of operation.

15. Keep all guards, deflectors, and shields in place and in good working condition.
16. Do not transport or move machine while the machine is running.

## 1.2 OPERATION SAFETY

### **WARNING**

Material can kickup or shift suddenly and cause serious injury or death. Wear eye and hearing protection.

### **DANGER**

Keep hands, feet and clothing out of the way of moving parts to avoid serious personal injury.

1. Do not allow hands or any part of body or clothing near any moving part.

2. Shut off machine immediately if the cutting mechanism strikes any foreign object or the machine starts making an unusual noise or vibrating. Allow the machine to stop completely. After machine stops:
  - A. Inspect for damage.
  - B. Replace or repair any damaged parts.
  - C. Check for and tighten any loose parts.
3. Keep proper balance and footing at all times.
4. Keep the machine clear of debris and other accumulations.

5. Ensure debris does not blow into traffic, parked cars, or pedestrians.
6. Check the bolts for correct torque every 10 hours of operation.
7. Shut off engine and allow machine to stop completely before clearing debris if the machine becomes clogged.

## 1.4 BATTERY SAFETY

1. Improper use and care of the battery on electric start models can result in serious personal injury or property damage. Always observe the following safety precautions:

A- Poison/Danger - Causes Severe Burns. The battery contains sulfuric acid. Avoid contact with skin, eyes or clothing. Keep out of reach of children.

ANTIDOTE-External Contact: Flush immediately with lots of water.

ANTIDOTE-Internal: Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Call a physician immediately.

ANTIDOTE-Eye Contact: Flush with water for 15 minutes. Get prompt medical attention.

- B- The battery produces explosive gases. Keep sparks, flame or cigarettes away. Ventilate area when charging battery. Always wear safety goggles when working near battery.
- C- The battery contains toxic materials. Do not damage battery case. If case is broken or damaged, avoid contact with battery contents.

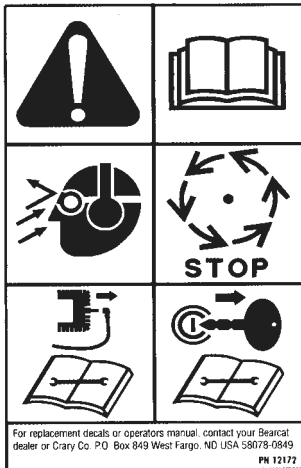
Neutralize acid spills with a baking soda and water solution. Properly dispose of a damaged or worn-out battery. Check with local authorities for proper disposal methods.

- D- Do not short circuit battery. Severe fumes and fire can result.
- E- Before working with electrical wires or components: disconnect battery ground (negative) cable first. Disconnect positive cable second. Reverse this order when reconnecting battery cables.

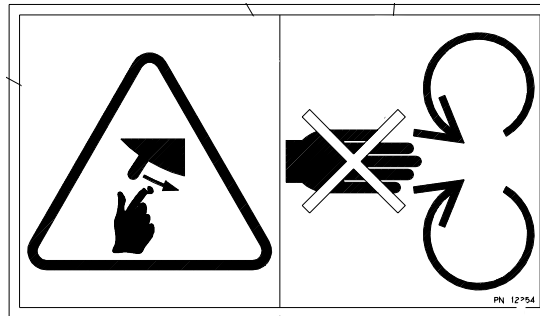


## 1.5 SAFETY DECALS

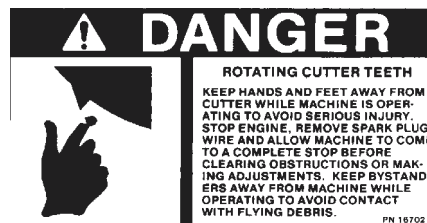
Safety and instruction decals are located on the chipper frame and engine. Replace any decal that is damaged or unreadable.



Part # 12172



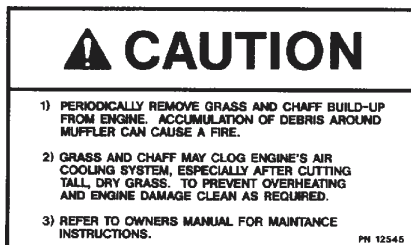
Part # 12254



Part # 16702



Part # 12252



Part # 12545



## CAUTION

Remove spark plug wire from spark plug before assembling.

1. Remove units and parts from shipping crate.
2. Stand handlebar upright. Secure the bottom of the handlebar by inserting bolts to the bottom hole on the handle support channel. Do not tighten bolts at this time. Refer to Fig. #2.
3. Adjust the handlebar height. The handlebar height is set by choosing one of the available three holes on the handle support channel towards the bottom of the handlebar's lower portion.
4. Align the holes on the bottom portion of the handlebar with the selected holes on the handle support channel. Thread bolts through the holes with the bolt head facing out.
5. Tighten all bolts by turning counterclockwise while holding the locknut stationary with the other wrench.
6. Add oil to the engine. Refer to Fig. #3 and to the engine owners manual for recommended SAE 30 engine oil types and amounts. No special additives are used with recommended oil types; do not mix oil with gasoline. Ensure the machine is level when adding oil. Oil capacity is approximately 20 oz.
7. Check oil level. Remove dipstick and wipe with clean cloth. Reinsert dipstick and tighten. Remove again to check oil level; oil should be at the full mark.
8. Fill gas tank with fresh, clean, unleaded gasoline. Do not use fuel that contains methanol or is mixed with oil. Ensure the machine is level when adding fuel. Refer to engine owners manual for additional information.



## WARNING

Handle fuel with care. Use an approved container and fill outdoors. Do not add fuel to a running or hot engine. It is extremely flammable.

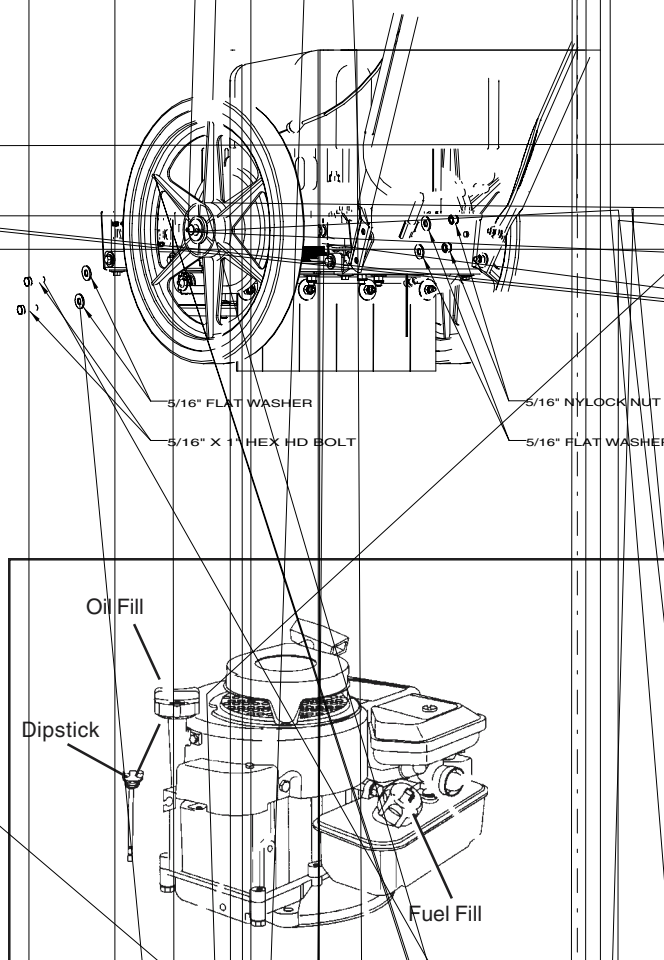


Fig. # 3, Adding oil and gasoline



# 4 Operation

## Section

### 3.1 GENERAL STARTING INSTRUCTIONS



#### CAUTION

Move machine to a clear, level area outdoors before starting. Do not operate in the vicinity of bystanders.

**Read the safety instructions.** Familiarize yourself with the safety instructions in this manual and the engine owners manual before starting the EZ Trim Mower.

**Fill engine with oil.** Do not start before adding oil to the engine. See engine manual for the type and amount of oil to use. Machine should be level when filling.

1. Check engine oil level and fill if necessary before each use. See engine manual for filling and maintenance instructions.
2. Fill fuel tank with fresh, clean unleaded gasoline. **DO NOT MIX OIL WITH GASOLINE.**



#### WARNING

Handle fuel (gasoline) with care. It is highly flammable. Always use an approved container and fill tank outdoors. Never add fuel to a running or hot engine.

3. Move the throttle control to the run position. If the engine is equipped with a engine fuel valve, turn it to the on position.
4. If starting for the first time, firmly push the primer bulb 5 times. Thereafter push the primer bulb 3 times before starting. Or if equipped with a choke, place the engine in choke.
5. Pull trimmer bail back. Grasp the recoil starter cord handle and slowly pull until resistance is felt. After resistance is felt, pull the cord quickly to start the engine and prevent kickback. Repeat if necessary.
6. If engine does not start after 3 pulls, push the primer bulb 3 times, or adjust the choke and repeat step 5.

#### NOTE

Some oil usage is normal. Check level before each use. See engine operators manual for the type and amount of oil to use.

### 3.2 STARTING ELECTRIC MODELS

1. Turn the ignition key to ON position.
2. Move the throttle control to the run position.
3. Firmly push the primer bulb 5 times for first time starting. Firmly push the primer bulb 3 times thereafter.
4. Pull trimmer bail back.
5. Turn ignition key clockwise to start electric start engine.
  - **Use recoil start procedure if the battery is not charged.** Grasp the recoil starter cord handle and slowly pull until resistance is felt. After resistance is felt, pull the cord quickly to start the engine and prevent kickback. Repeat if necessary.
  - **Use 1 AMP trickle charger to charge battery.** Do not exceed 1.4 AMP initial charge.
6. If engine does not start after 3 tries, push the primer bulb 3 times, or adjust the choke and engage ignition again.

#### NOTE

Continue to hold the bail after the engine is started. Releasing will stop the engine.

#### NOTE

A throttle cable is not included on some Briggs & Stratton powered EZ Trim Mowers (Models 73050, 73350, 73265). On models without a throttle cable, the throttle is adjusted on the engine.

## Operation

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### 3.3 TRIMMING



#### **WARNING**

Wear safety glasses during operation. Wear proper clothing to protect feet, legs, and other exposed body parts.



#### **WARNING**

Inspect and clean engine before each use. Debris accumulation around the muffler can cause a fire.

The intended use of the EZ Trim Mower is trimming, mowing, and edging. It can be used as a mower or trimmer and edger after mowing with a lawn mower.

To begin trimming, with the engine running, place the trimmer head on the ground and begin walking slowly. The wheels should remain grounded at all times to prevent undue pressure on the trimmer head. The cutting radius is dependent on the amount of cutting string used and type of application. For difficult conditions and edging, using less than the full cutting radius is recommended.

### 3.4 SELF PROPELLED OPERATION

The Self Propelled EZ Trim Mower is used in either push or self propelled mode.

1. Pull up the self propelled bail located under the handlebar to start the self propelled mode.
2. Adjust trimmer speed with the shift lever. Position 1 is the slowest and position 3 is the quickest. (The ground speed ranges from 1 mph in 1st gear to 2 mph in 3rd gear).
3. Operate EZ Trim Mower safely and as intended.
4. To stop the mower release the bail.

### 3.5 OFF CENTER TILT FEATURE (OCT)

On models 74050, 74060, 74065, 74450, 74455 the OCT feature is used to edge and trim in hard to reach places. This feature enables both the trimmer head and body to tilt for trimming close to the ground. The degree of tilt is dependent on the setting selected on the tilt control grip located on the right side of the EZ Trim Mower.

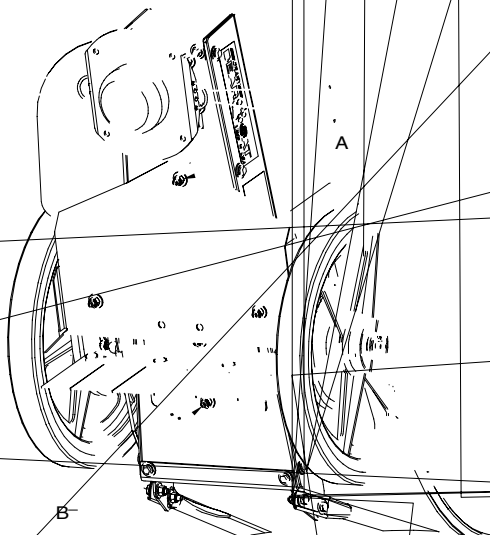
Four settings are available:

1. Level. The tilt control grip is set in the position closest to the rear of the trimmer.
2. 5.4 degrees. The tilt control handle is set in the second position from the rear of the trimmer.
3. 10.3 degrees. The tilt control handle is set in the third position from the rear of the trimmer.
4. 13 degrees. The tilt control grip is set in the position closest to the front of the machine for maximum tilt.

## 4.1 PARALLEL TRIMMING (MODELS 73265, 73350, & 73455)

The EZ Trim Mower trimmer body can be adjusted to mow at an angle. The trimmer body will move up to 2" to the left or the right. This allows the machine to edge and trim in hard to reach places. To adjust the parallel trimming setting:

1. Loosen two nuts on the bottom of the trimmer called out in Fig. #4; the first (A) is located behind the trimmer spindle, while the other (B) is in the center of the back of the transmission support plate. Do not adjust parallel trimming with the trimmer axle. This will cause the drive chains to fall out of adjustment.
2. Pivot the trimmer body, on the slotted holes, to the left or right. The trimmer body can pivot either left or right up to 2".
3. Tighten the nuts loosened in step #1.
4. When finished using the parallel trimming feature loosen bolts A & B and place the trimmer body in the original position.
5. Tighten the bolts and resume regular trimming or mowing.



## Service and Maintenance

### 4.4 ALL MODELS CUTTING HEIGHT ADJUSTMENT

The EZ Trim Mower standard cutting height is 2-3/4 inches. Figure number five, below, depicts the trimmer head assembly when purchased and set at the standard cutting height.

The cutting height will adjust down approximately 3/4 inch by turning the trimmer head disk over, see Fig. # 6 & 7). To adjust the cutting height down, remove the trimmer head weldment before turning the trimmer head disk.

1. Insert a 9/16" open end wrench into trimmer frame.
2. Rotate trimmer head until wrench engages with trimmer shaft.
3. Twist the trimmer head weldment counterclockwise to remove. Use channel lock or pipe wrench if necessary.
4. Turn trimmer head disk over and replace on trimmer spindle.
5. Return trimmer head weldment and turn clockwise to tighten.

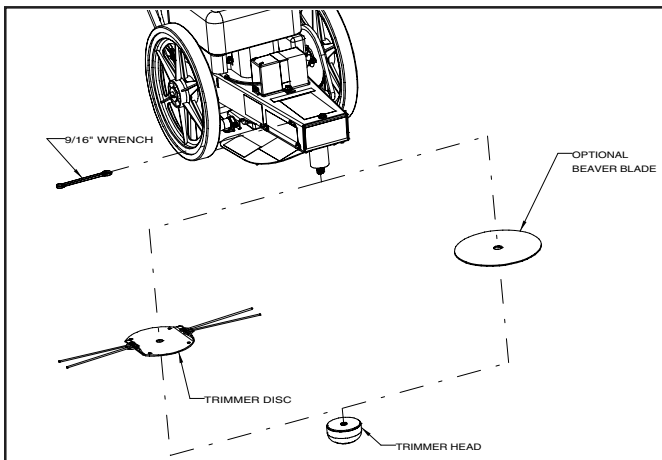


Fig. #5

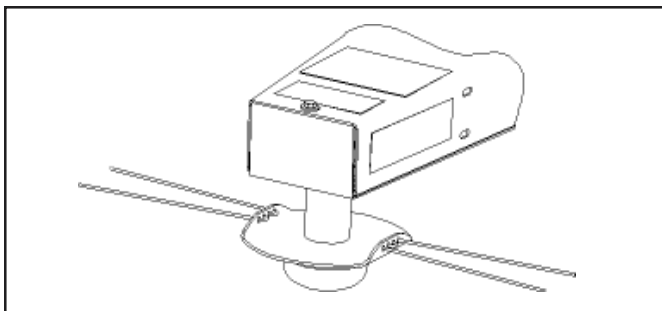


Fig. #6

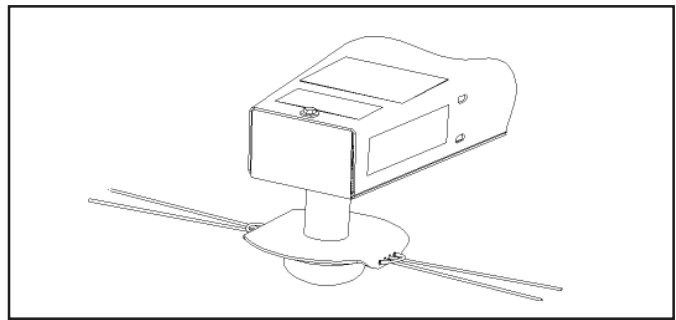


Fig. #7

### 4.5 DRIVE BELT CHECKING AND REPLACEMENT

Check the condition of the drive belt annually or after 30 hours of operation, whichever comes first. If the belts are cracked, frayed, or worn, replace them by following the steps below.

1. Shut off the engine. Disconnect the spark plug wire.
2. Remove the front cover weldment (requires loosening and removing three bolts).
3. Loosen the four bolts fastening the spindle hub to the trimmer bottom frame. This will allow the spindle hub with the attached trimmer pulley to move freely.
4. Remove the handle support channel (back cover with tabs to adjust the handlebar). Requires loosening and removing four bolts.
5. Remove worn or broken belt. If the belt is badly worn and will not be used again, cut for ease of removal.
6. Install new belt from the front to the back. Feed belt above the front trimmer pulley and below the rear pulley.
7. Move the spindle hub by inserting a screwdriver in the slot on the rear side of the spindle hub and applying 70 lbs. pressure forward until belt is tight. Tighten bolts.
8. Replace front cover and secure with bolts.
9. Replace the handle support channel (back cover with handlebar adjustment tabs). The bolts should be secured with the bolt head beneath and the nuts and washer above the trimmer body.

### 4.6 CUTTING STRING REPLACEMENT



## WARNING

Before inspecting or servicing any part of the machine, disconnect the spark plug wire from the spark plug and make sure all moving parts have come to a complete stop.

1. Feed the cutting string through the second hole on either end of the trimmer head leaving approximately 8 inches for the cutting surface. Total recommended string length is 20-1/2 inches.
2. Continue by weaving the cutting string through the first hole directly beside the second hole used in Step 1. Pull the cutting string tight.
3. Loop the cutting string back and feed through the first hole on the opposite end of the trimmer head.
4. Feed through the remaining second hole and pull the cutting string tight. The cutting strings in the middle two holes should be the same length. If the length differs, cut to an even length.

When completed, the trimmer head should resemble Fig. #8.

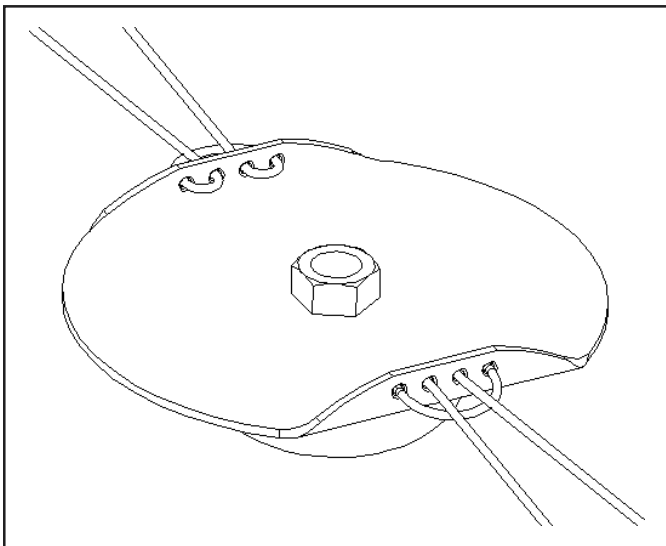


Fig. #8

The cutting string can also be wrapped in a variety of ways. Refer to Fig. #9 and Fig. #10 for examples.

Cutting string is available in two thicknesses, .130 mil (standard) and .155 mil (heavy duty). The type of string selected is dependent on the conditions and material being cut.

Heavier string than .155 mil can be used by making the holes in the trimmer head larger. The decision to drill the holes bigger shortens the life of .130 mil and .155 mil string if used again.

The wrapping method and cutting string thickness chosen is ultimately based on what is determined the best for the operator.

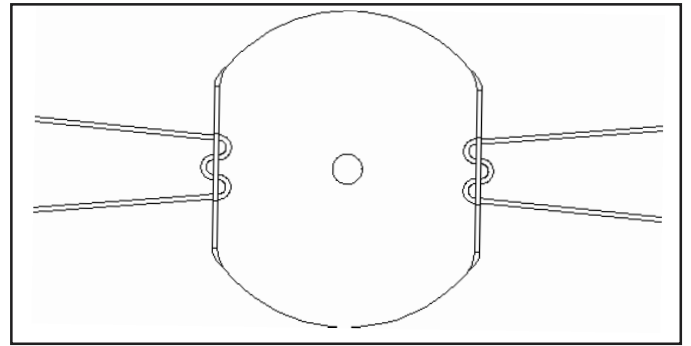


Fig. #9

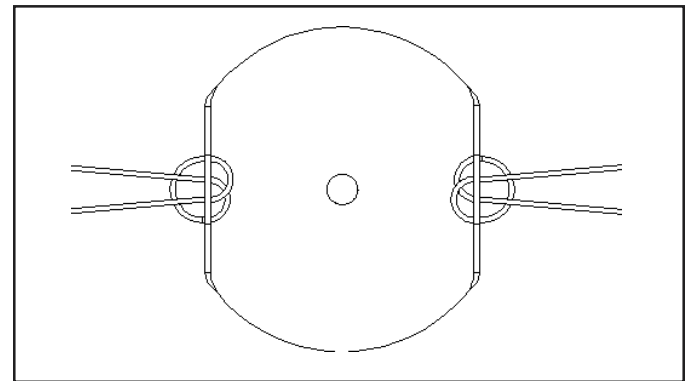


Fig. #10



## Service and Maintenance

### 4.7 SELF PROPELLED MODEL CHAIN ADJUSTMENT

Self propelled models 73265, 73350, & 73455 are driven with a drive chain. Periodically, this chain will need to be adjusted. To adjust:

1. Loosen two (2) 5/16" nuts located under the trimmer axle.
2. Slide the trimmer axle back to tighten the chains. Slide the trimmer forward to loosen the chains.
3. Retighten 5/16" nuts.

### 4.8 ENGINE MAINTENANCE

#### IMPORTANT

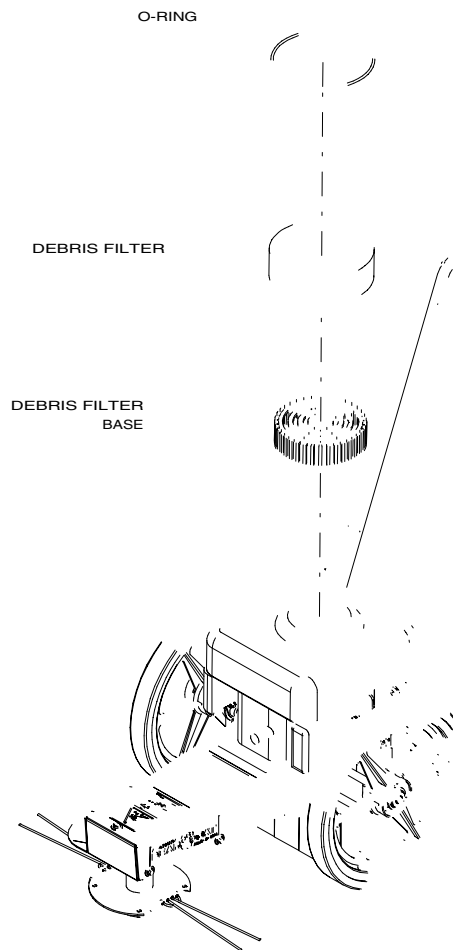
Clean grass and buildup from the engine periodically. Dusty conditions will require frequent cleaning.

Maintenance is essential in preserving engine life. The engine should be cleaned periodically to remove grass and buildup. The engine owners manual addresses cleaning the air filter and changing the oil. Service engine according to the maintenance schedule in your engine owners manual.

Remember to inspect and clean engine cooling fins as needed.

### 4.9 DEBRIS FILTER CLEANING/REPLACEMENT (MODEL 73050, 74050, 73350)

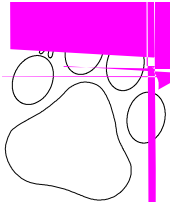
1. Shut off the engine. Disconnect the spark plug wire.
2. Remove o-ring. Refer to Fig. #12.
3. Remove debris filter from filter base.
4. Clean debris filter or replace if needed.
5. Reinstall debris filter by performing above steps in reverse order.





## 4.10 TROUBLESHOOTING

Problem	Probable Cause	Suggested Remedies
Cutting strings do not turn	Broken off or damaged belts	Replace belts
	Broken spindle	Repair spindle
	Failed bearings	Repair bearings
Cutting is slow or rough	Cutting string is too weak	Replace with heavier cutting string (.155)
	Growth is too thick or heavy	Reduce trimming area by half or raise the trimmer head off the ground
	Engine not running at full RPM	Speed up engine to full throttle
Trimmer requires excessive power or stalls	Cutting string is too weak	Replace with heavier cutting string (.155)
	Drive belts are loose or worn	Replace drive belts
	Growth is too thick or heavy	Reduce the size of trimming area in half or raise the trimmer head off the ground slightly
	Belts too tight	Move spindle hub assembly towards the rear of the trimmer
Drive belts squealing or smoking	Drive belts are loose or worn	Replace drive belts
	Worn or damaged pulley	Replace pulley
Engine won't start or is hard to start	Gas tank is empty	Fill gas tank
	Spark plug wire is disconnected	Connect loose wire to the spark plug
	Spark plug is defective	Replace spark plug
	Gas line is obstructed (bail disconnected)	Remove gas line at carburetor and check for obstruction. Drain gas tank and refill with fresh gasoline.
	Dirty, stale, water-contaminated gas	Drain tank and fill with fresh gasoline
	Flooded engine	Put throttle control in run position and crank engine several times to clear out excess gas
	Dirty or plugged air cleaner or engine cooling fins	Clean air cleaner or replace. Clean cooling fins and shroud area of engine.
	Engine brake control open	Replace engine brake control
Drive belt rolling or falling off of pulleys	Pulley not aligned	Align pulleys
	Belt not tensioned properly	Tension belt with 70 lbs of force
	Spindle bearing failed	Replace bearing
Chain Falling off Self Propelled Model	Loose chain	Tighten chain
	Worn chain	Replace chain
	Worn sprocket	Replace sprocket
	Sprocket not aligned	Align drive sprocket and wheel clutch assembly with washers



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## 5.1 SPECIFICATIONS

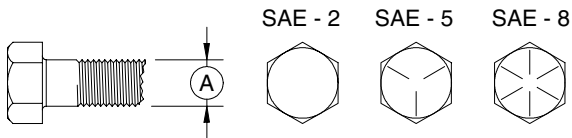
<b>74050</b>	<b>74450</b>	<b>74455</b>	<b>74065</b>	<b>74060</b>
Briggs and Stratton Quantum	Honda OHV	Honda OHC	Briggs and Stratton InTek OHV	Briggs and Stratton InTek OHV
5HP	5HP	5.5HP	6HP	6HP
Push	Push	Push	Push	Push
24"	24"	24"	24"	24"
Ball Bearings	Ball Bearings	Ball Bearings	Ball Bearings	Ball Bearings
1 7/8" & 2 3/4"	1 7/8" & 2 3/4"	1 7/8" & 2 3/4"	1 7/8" & 2 3/4"	1 7/8" & 2 3/4"
Heavy Duty .130	Heavy Duty .130	Heavy Duty .130	Heavy Duty .130	Heavy Duty .130
Standard	Standard	Standard	Standard	Standard
Mechanical	Mechanical	Mechanical	Mechanical	Mechanical
77 lbs	81 lbs	82 lbs	82 lbs	82 lbs
50"	50"	50"	50"	50"
38"	38"	38"	38"	38"
21"	21"	21"	21"	21"
Solid Steel	Solid Steel	Solid Steel	Solid Steel	Solid Steel
Powder Baked Foam with Foam Grip	Powder Baked Foam with Foam Grip	Powder Baked Foam with Foam Grip	Powder Baked Foam with Foam Grip	Powder Baked Foam with Foam Grip
Recoil	Recoil	Recoil	Electric	Recoil
1.5 qt	1.2 qt	1.2 qt	1.5 qt	1.5 qt
2 year consumer, 90 day commercial	2 year consumer, 90 day commercial	2 year consumer, 90 day commercial	2 year consumer, 90 day commercial	2 year consumer, 90 day commercial

# Specifications

## 5.2 BOLT TORQUE

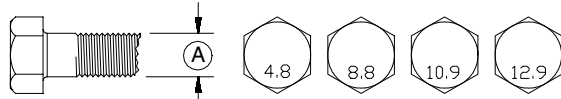
### CHECKING BOLT TORQUE:

The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Replace hardware with the same strength bolt.



### ENGLISH TORQUE

Bolt Diameter	Bolt Torque*					
	SAE 2		SAE 5		SAE 8	
1/4"	7.5	5.5	9.5	9	17	12.5
5/16"	15	11	25	18	35	26
3/8"	27	20	44	33	63	46
7/16"	44	32	70	52	100	75
1/2"	67	50	110	80	150	115
9/16"	95	70	155	115	225	160
5/8"	135	100	215	160	300	225
3/4"	240	175	375	280	550	400
7/8"	240	175	625	450	875	650
1"	360	270	925	675	1300	975
1-1/8"	510	375	1150	850	1850	1350
1-1/4"	725	530	1650	1200	2600	1950



### METRIC TORQUE SPECIFICATIONS

Bolt Diameter	Bolt Torque*							
	4.8		8.8		10.9		12.9	
M3	0.5	0.4	-	-	-	-	-	-
M4	3	2.2	-	-	-	-	-	-
M5	5	4	-	-	-	-	-	-
M6	6	4.5	11	8.5	17	12	19	14.5
M8	15	11	28	20	40	30	47	35
M10	29	21	55	40	80	60	95	70
M12	50	37	95	70	140	105	165	120
M14	80	60	150	110	225	165	260	190
M16	125	92	240	175	350	255	400	300
M18	175	125	330	250	475	350	560	410
M20	240	180	475	350	675	500	800	580
M22	330	250	650	475	925	675	1075	800
M24	425	310	825	600	1150	850	1350	1000
M27	625	450	1200	875	1700	1250	2000	1500

Torque figures indicated above are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

\* Torque value for bolts and capscrews are identified by their head markings.

## Manual Improvement Program

If you have a suggestion on how to improve this manual, send it to us. Participants whose ideas are implemented will receive a free pair of Crary genuine leather gloves.

Send your suggestions to:

Crary Company

C/O Technical Writer

237 NW 12th St. Box 849

West Fargo, ND 78078



Suggestions: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Email (if applicable): \_\_\_\_\_

Product purchased: \_\_\_\_\_

Manual part number: \_\_\_\_\_



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